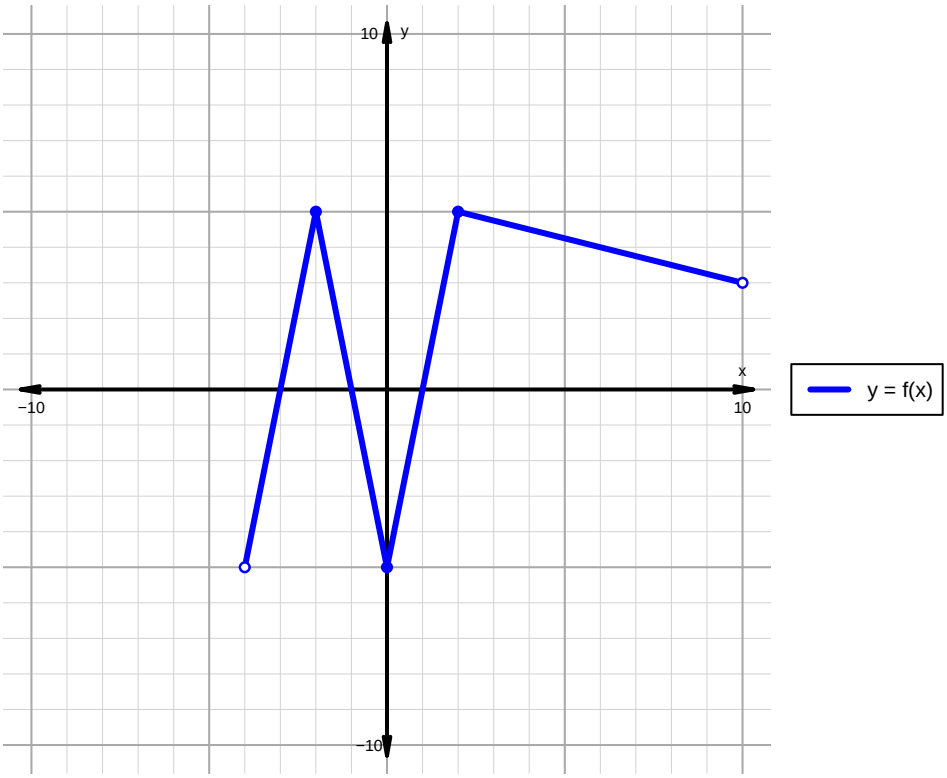
Name: Date:

Intervals, Transformations, and Slope Solution (version 39)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-3,-1)\cup(1,10)$
Negative	$(-4,-3)\cup(-1,1)$
Increasing	$(-4,-2)\cup(0,2)$
Decreasing	$(-2,0)\cup(2,10)$
Domain	$(-4,10)$
Range	$(-5,5)$

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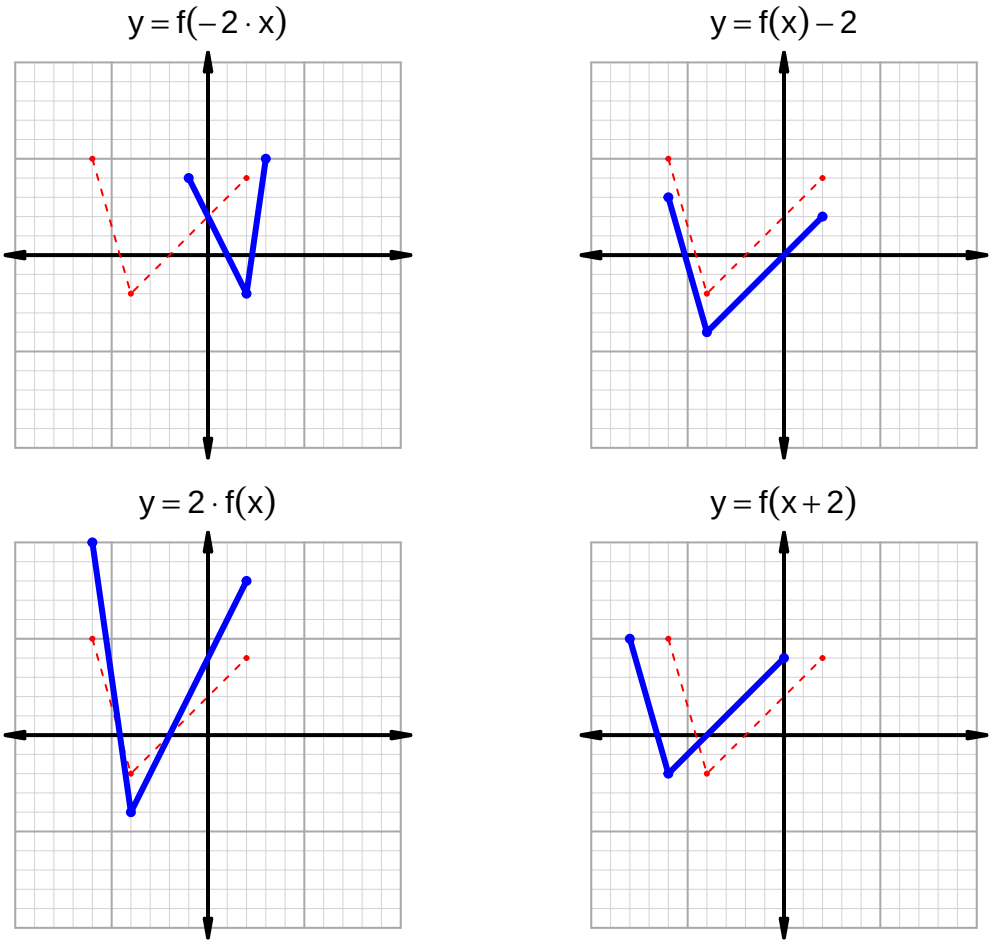
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 33$ and $x_2 = 53$. Express your answer as a reduced fraction.

x	$g(x)$
33	87
53	91
87	53
91	33

$\frac{f(53)-f(33)}{53-33} = \frac{91-87}{53-33} = \frac{4}{20}$

The greatest common factor of 4 and 20 is 4. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{1}{5}$$